

Table of Contents

D. SCIENCE REQUIREMENTS AND MISSION SCIENCE PERFORMANCE	D-1
D.1 EXECUTIVE SUMMARY.....	D-1
D.2 SCIENCE GOALS AND DERIVED REQUIREMENTS	D-3
D.2.1 Science Goals.....	D-3
D.2.2 Science Objectives and Requirements.....	D-4
D.2.3 Connecting Science Objectives to Mission Requirements.....	D-7
D.2.4 Derived Science Requirements	D-10
D.3 MISSION SCIENCE PERFORMANCE	D-11
D.3.1 Performance Requirements.....	D-11
D.3.2 Instrumentation	D-11
D.3.3 Mission Approach	D-18
D.3.4 Data Reduction and Analysis	D-19
E. MISSION IMPLEMENTATION PLAN.....	E-1
E.1 MISSION OVERVIEW	E-1
E.2 GENERAL INFORMATION - MISSION DESIGN	E-2
E.2.1 Launch and Separation.....	E-2
E.2.2 Cruise Trajectory	E-2
E.2.3 Operational Orbit Information	E-2
E.3 PAYLOAD E-4	
E.3.1 Disturbance Reduction System	E-4
E.3.2 Interferometry Measurement System	E-6
E.3.3 Payload Structural Subassembly.....	E-8
E.4 SPACECRAFT.....	E-8
E.4.1 Structures.....	E-8
E.4.2 Telecommunication.....	E-10
E.4.3 Thermal	E-10
E.4.4 Power.....	E-10
E.4.5 Attitude Control	E-10
E.4.6 Command and Data Handling	E-11
E.4.7 Flight Software	E-11
E.4.8 Propulsion Module	E-11
E.5 RESOURCES AND MARGINS	E-11
E.5.1 Spacecraft Mass and Power Margins.....	E-11
E.5.2 Performance Margin	E-11
E.6 ASSEMBLY, INTEGRATION & TEST.....	E-12
E.6.1 Payload I&T	E-12
E.6.2 Spacecraft I&T	E-13
E.6.3 Observatory I&T.....	E-13
E.6.4 Facilities and Equipment.....	E-13
E.7 MISSION OPERATIONS AND GROUND SYSTEM	E-13
E.7.1 Mission Phases.....	E-13
E.7.2 Mission Modes	E-14
E.7.3 Ground Station Network and Communication Parameters	E-14
E.7.4 Concept for Spacecraft and Science Data Destination	E-14
E.7.5 Uplink, Downlink Information	E-15
E.7.6 Ground Software	E-15
E.8 APPROACH TO ENSURING MISSION SUCCESS.....	E-17
E.8.1 System Engineering Plan and Philosophy.....	E-19

F. TECHNOLOGY ROADMAP AND PROGRAM FORMULATION	F-1
F.1 OVERVIEW.....	F-1
F.2 TECHNOLOGY DEVELOPMENT ITEMS.....	F-4
F.2.1 Disturbance Reduction System	F-4
F.2.2 Interferometry Measurement System	F-9
F.2.3 System Verification	F-15
F.3 OTHER PROGRAM FORMULATION ACTIVITIES.....	F-22
F.3.1 Formulation Strategy	F-22
F.3.2 Formulation Products.....	F-23
G. MANAGEMENT, SCHEDULE, & BUDGET	G-1
G.1 OVERVIEW.....	G-1
G.2 MISSION FORMULATION	G-3
G.2.1 Management Organization	G-3
G.2.2 Formulation Including Schedule & Budget	G-6
G.2.3 Technology Development Including Schedule & Budget	G-11
G.3 MISSION IMPLEMENTATION	G-15
G.3.1 Management Organization	G-16
G.3.2 Schedule (Including Slack Policy, and Activities On And Near Critical Path)	G-19
G.3.3 Budget.....	G-21
G.4 WHOLE PROGRAM SUMMARY.....	G-22
G.4.1 Schedule	G-22
G.4.2 Budget – Summary Budget.....	G-25
H. APPENDICES	H-1
H.1 DETAILED BUDGET	H-1
H.2 SUPPORTING, DETAILED SCHEDULES	H-43
H.3 DRAFT INTERNATIONAL PARTICIPATION PLAN	H-129
H.4 OUTLINE OF TECHNICAL RESPONSIBILITIES FOR INTERNATIONAL PARTICIPATION	H-137
H.5 LIST OF ABBREVIATIONS AND ACRONYMS.....	H-150
H.6 REFERENCES.....	H-155